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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,807	03/17/2004	Shih-Tsung Chen	23724-08324	5599

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EXAMINER
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HOFFBERG, ROBERT JOSEPH

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,807	<b>Applicant(s)</b> CHEN, SHIH-TSUNG	
	<b>Examiner</b> Robert J. Hoffberg	<b>Art Unit</b> 2835	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                        |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/24/05</u> | 6) <input type="checkbox"/> Other: _____   |

***Specification***

1. The disclosure is objected to because of the following informalities: The specification discloses that the inventor is Chen Shirong. The oath discloses the inventor as Shih-Tsung Chen. Prior art patents US 6,940,717 and 6,961,243 list the inventor as Chen Shih-Tsung having the first and last names reversed. See attached interview summary on 12/15/05.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (US 6,105,662).

With respect to Claim 1, Suzuki teaches that a cooling apparatus for a computer comprising: a conductive base plate (Fig. 2, #36) configured to be installed over a CPU (Fig. 2, #34) and to transfer heat therefrom; a heat conductor (Fig. 2, #38) thermally coupled to the base plate adapted to carry heat transferred to the base plate by the CPU away from the base plate; a heat sink (Fig. 2, #40) thermally coupled to the heat conductor for dissipating heat carried by the heat conductor; a fan (Fig. 2, #44) for dispersing heat transferred to the heat sink; and a housing (Fig. 1, #46) for the heat sink and the fan configured to be installed adjacent to a window (Fig. 1, #48) in a computer

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chassis (Fig. 1, #30) such that the fan can direct airflow (Col. 1, line 38) through the heat sink and out the window (Fig. 1, #48).

With respect to Claim 3, Suzuki further teaches that the heat conductor comprises one or more heat pipes (Fig. 2, #38).

With respect to Claim 8, Suzuki further teaches that the heat conductor the heat sink comprises a plurality of cooling fins (Col. 2, #42).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662).

With respect to Claim 2, Suzuki teaches the cooling apparatus of claim 1. Suzuki fails to teach the form factor of the computer chassis. While Suzuki fails to disclose the form factor of the computer chassis, it is obvious that the chassis has a size. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include a computer chassis size of a small form factor computer or any size which meets the application of the chassis.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) as applied to claim 3 above, in view of Moore (US 5,982,616).

With respect to Claim 4, Suzuki teaches the cooling apparatus of claim 3. Suzuki does not teach the plurality of heat pipes. Moore teaches a plurality of heat pipes (Fig. 2, #78), each heat pipe connected to the heat sink (Fig. 4, #52) through a hole (Col. 4, lines 11-15) to facilitate heat exchange therebetween. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of having parallel heat pipes to increase the heat dissipation.

With respect to Claim 5, Suzuki teaches the cooling apparatus of claim 3. Suzuki does not teach the type of heat pipe. Moore teaches the heat pipes contain at least one of: a metal mesh grid and a liquid (Col. 4, line 14) for transferring the heat contained within the heat pipe. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of increasing the heat dissipation.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) as applied to claim 1 above, in view of Rodriguez et al. (US 6,704,196).

With respect to Claim 6, Suzuki teaches the cooling apparatus of claim 1. Suzuki does not teach the airflow being drawn over the power supply. Rodriguez et al. teaches the airflow (Fig. 1, #144 and #146) is drawn over a power supply (Fig. 1, #142) installed within the computer chassis (Fig. 1, #102), removing heat therefrom. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to

modify the apparatus of Suzuki with that of Rodriguez et al. for the purpose of cooling the CPU and power supply with the same airflow.

With respect to claim 7, Suzuki teaches the cooling apparatus of claim 1. Suzuki does not teach the placement of the fan. Rodriguez et al. teaches the fan (Fig. 1, #148) is configured to face the power supply (Fig. 1, #142). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Moore for the purpose of cooling the CPU and power supply with the same fan.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) as applied to claim 1 above, in view of Mochizuki et al. (US 5,964,279).

With respect to Claim 9, Suzuki teaches the cooling apparatus of the above claims. Suzuki fails to teach the heat sink material. Mochizuki teaches the cooling fins are made of one of: copper (Col. 3, line 63) and compression molded aluminum. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Mochizuki et al. for the purpose of fabricating the heat sink from a good heat conducting material.

9. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662) as applied to claim 1 above, in view of Yin (US 5,586,865).

With respect to Claim 10, Suzuki teaches the cooling apparatus of claim 1. Suzuki does not teach a screen over the window. Yin teaches a computer chassis (Fig. 1, #10C) comprising the window (Fig. 1, #10P) in the computer chassis, a screen (Fig. 3, #34S) over the window, and a second window configured to intake (Fig. 1, #10V)

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ambient air. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Suzuki with that of Yin for the purpose of creating a filtered airflow for cooling.

10. Claims 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 6,105,662), in view of Rodriguez et al. (US 6,704,196).

With respect to Claim 11, Mochizuki et al. teaches a method of cooling the interior of a computer chassis, the method comprising: transferring heat generated by a CPU (Fig. 2, #34) in the computer chassis (Fig. 1, #30) to a heat sink (Fig. 2, #40) through a base member (Fig. 2, #36) installed adjacent to the CPU and a cooling pipe (Fig. 2, #38) connected to the heat sink; and drawing ambient airflow (Col. 1, line 38) into the chassis through a first window (Fig. 1, #48 top) in the chassis, pass through a fan (Fig. 2, #44), and be blown by the fan over the heat sink (Fig. 2, #40) to outside (Fig. 1, #48 bottom) the chassis. Suzuki does not teach the air flow is directed to pass over a power supply. Rodriguez et al. teaches wherein the air flow (Fig. 1, #144 and #146) is directed to pass over a power supply (Fig. 1, #142) in the chassis (Fig. 1, #102). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Mochizuki et al. with that of Rodriguez et al. for the purpose of cooling the CPU and power supply with the same airflow.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Regarding Claims 1-10, applicant argues that a housing for a fan and a heat sink is novel over Mochiuki et al. However, the housing is not novel over Suzuki.

Regarding Claim 6, applicant argues that that an air flow to cool both a power supply and the CPU is novel over Mochizuki et al. in view of Usui et al. However, this dual purpose of the air flow is not novel over Suzuki, in view of Rodriguez et al.

Regarding Claim 11, applicant has amended this claim. A new ground of rejection is stated above.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakase et al. (US 6,109,340), Bookhardt et al. (US 6,328,097), Rogers et al. (US 6,590,770) and Wobig et al. (US 6,711,013) teach housing for a heat sink and a fan. Yu (US 5,959,837) teaches a conductive base plate, a CPU, one or more heat conductors, a heat sink, a fan and a computer chassis.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for



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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

RJH R *[initials]*

**BORIS CHERVINSKY**  
**PRIMARY EXAMINER**

*[Signature]*  
12/29/15